

MANAGEMENT PLAN

For the Designation of a Water Conservation Area (WCA) Hayden Family Farm; Sherman County, KS January 2018 through December 2027

In order to conserve and extend the productive life of the aquifer in our region and increase the value and viability of our water rights and water resources for future generations we, the undersigned water right owners propose the following management plan, pursuant to K.S.A. 82a-745 (WCA Law), to form the basis of a Consent Agreement and Order Designating a Water Conservation Area (WCA).

Expression of Conservation Goals

Water Right owners and the tenant farmer desire to conserve and extend the productive life of the Ogallala Aquifer within Sherman County. The purpose of the Hayden Family Farm WCA is to maintain production and profitability while reducing water use over the term of the WCA from long term averages. Hayden Family Farm will facilitate the execution of the goals through more flexible and efficient use the water resource as outlined in this management plan.

Hayden Family Farm and the tenant recognize the need to conserve the Ogallala Aquifer within Sherman County as water table declines continue at an unsustainable rate. Hayden Family Farm is committed to a reduction in water use from a long term average of 15.42 inches per acre to 14 inches per acre. Hayden Family Farm and the tenant propose a WCA term of 10 years commencing on January 1st, 2018 and ending on December 31st, 2027 with two 5-year evaluation periods. The proposed reduction equates to a maximum quantity of 4200 acre-feet or 70 inches on 720 acres in the each 5-year evaluation period commencing on January 1st, 2018 and January 1st, 2023 respectively. Any unused allocation in the first 5-year period may be carried over into the subsequent 5-year period. The quantity will be the lesser of 1 years' worth of allocation as defined by the current WCA plan or any more restrictive conservation plans that may be instituted in the future limited to a maximum of 840 AF or 14 inches on 720 acres.

Based on the currently proposed district-wide Local Enhanced Management Area (LEMA) Plan all of the water rights are located in townships with greater than 2% decline and would receive 14.5 inches per irrigated acre. The proposed district-wide LEMA plan would allocate a total of 4350 acre feet. Hayden Family Farm recognizes that this quantity is not sustainable long term and desires to reduce water use below long term averages and below the currently proposed LEMA allocation. Hayden Family Farm also recognizes the proposed WCA plan is the first step in reducing water usage and additional reductions may be necessary in future WCA plans to extend the productive life of the Ogallala Aquifer within Sherman County.

Water Rights Enrolled and Geographical Boundaries

The Hayden Family Farm shall include the following water rights and all points of diversion associated with those water rights. The following legal descriptions define the areas included in Hayden Family Farm WCA in Sherman County:

Water Right#	Owner	PDIV#	Sect-Twp-Range	Authorized Annual Quantity (AF)	Historical Ave. Use (03-15) (AF)	Historical Ave. Use (03-15) (IN/AC)
9287	Hayden	3910	23-09S-41W	480	298.49	14.92
11319	Hayden	15364	14-09S-41W	432	263.33	13.17
16000	Hayden	12321	13-09S-41W	576	363.54	18.18
Totals				1488	925.36	15.42

The current total appropriations authorized for all water rights included in the Hayden Family Farm WCA are 1488 Acre-Feet per year, with an average annual use during the period 2003-2015 of 925.36 acre-feet. With a 9% reduction from historical average use, a 56% reduction from the annual authorized quantity, and 1.42 inches per acre reduction, the 5-Year evaluation period allocation is 4200 AF equaling 14.00 inches per acre on 720 irrigated acres.

Average Yearly Use (2003-2015)	925.36	Acre-Feet
Average Yearly Use (2003-2015)	15.42	IN/AC
Average Annual Conservation Allocation	85.2	Acre-Feet
Average Annual Conservation Allocation	1.42	IN/AC
5-Yr Evaluation Period Total WCA Allocation	4200	Acre-Feet
5-Yr Evaluation Period Total WCA Allocation on 720 Acres	70	Inches

The geographic boundary for the place of use for the irrigation use is shown on the attached map and is described as follows:

WCA Authorized Place of Use																			
S	T	R	NE¼				NW¼				SW¼				SE¼				TOTAL
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
13	09S	41W	34	37	38	22				12	30			16	36	40	36	19	320
14	09S	41W		15	32		35	18	35	40	33	17				15			240
23	09S	41W		17	34		34	17	33	40	34	15				16			240
Total Authorized Acres																			800

Findings Regarding Groundwater Conditions

We understand that the WCA Law requires a finding that one of the following circumstances be present within the area geographic boundaries of this WCA; specified in K.S.A. 82a-1036 (a) through (d):

- a) Groundwater levels in the area in question are declining or have declined excessively;
- b) The rate of withdrawal of groundwater in the area equals or exceeds the rate of recharge within such area;
- c) Preventable waste of water is occurring or may occur within the area in questions; or
- d) Unreasonable deterioration of the quality of water is occurring or may occur within the area in question

and amendments thereto, exist, or include a finding or findings that the area within the geographic boundaries described in paragraph (1) has been closed to new appropriations by rule, regulation or order of the Chief Engineer.

We have been informed that the following conditions exist:

- Groundwater levels in the area in question are declining or have declined excessively; Water levels in this area of Sherman County have declined approximately 20 feet from 2007 to 2016.
- The rate of withdrawal of groundwater in the area exceeds the rate of recharge.
- The area has been closed to new appropriations by rule, regulation or order of the Chief Engineer

See the attached maps and figures supporting these findings and observations. Such attached documents may include:

- Location Maps – Attachment A
- Estimated Useable Life Maps – Attachment B
- Changes in Water Levels – Attachment C1 and C2
- Summary of Water Use History - Attachment D
- KGS Observation Well(s) Data Attachment E
- KDA-DWR Theis analysis report (if applicable)

These conditions suggest the advisability of implementing the Hayden Family Farm WCA.

Per the Corrective Control Provisions and Plan for Conservation section, under this WCA management plan no water right, or point of diversion, is allowed any additional authorities than is currently authorized in the base water right. Therefore, it is determined that no further analysis, to determine possible impairments, needs to be completed for this WCA.

Due Consideration for Past Conservation

We acknowledge that as described in the law, a water conservation area (WCA) management plan shall give due consideration to water users who have previously implemented reductions in water use resulting from voluntary conservation measures.

We, the water right owners are committed to best water management practices and do not require any specific consideration of past water conservation in determining these allocations with the aim of the conservation of the Ogallala aquifer and to preserve the viability of irrigated agriculture within Sherman County.

Corrective Control Provisions and Plan for Conservation

We acknowledge that the following corrective controls will be in effect within the Hayden Family Farm WCA during the term of the WCA period listed:

1. Water rights, at the discretion of the owners, may be pumped as directed by the owner, provided that:
 - a. All points of diversion are limited to their annual authorized quantity.
 - b. All points of diversions are limited to their current authorized pumping rates.
 - c. The sum of water use under all water rights combined shall be limited to no more than 4,200 acre-feet or 70 inches on 720 acres every five (5) years.
2. Hayden Family Farms and the tenant recognize the value of soil moisture probes in water management decisions and the role the probes have in making the Hayden Family Farms WCA a success. As such we have already installed a soil moisture probe on Section 13 and are hereby committing to installing an additional soil moisture probe on Section 23.
3. The corrective control provisions of the Hayden Family Farm WCA cannot conflict with the rules and regulations of the local GMD that result in greater overall conservation of water resources. If a Local Enhanced Management Area (LEMA) plan or an Intensive Groundwater Use Control Area (IGUCA) is formed after the initiation of the Hayden Family Farm WCA, and the WCA is partially or wholly within the LEMA or IGUCA, the corrective control provisions that result in the greater overall conservation of water resources based on inches per acre and not based on percent reduction of average historical use shall prevail. However, any LEMA or IGUCA must give due consideration to the conservation achieved by WCA participants pursuant to 82a-745(a)(6). The Chief Engineer is authorized to amend the provision of the WCA to conform to any rules, regulations, or requirements that result in greater conservation of the water resource subject to the foregoing due consideration for past and current conservation.

We, the water right owners enrolling in this WCA understand we may gain the following flexibilities in consideration for our conservation.

4. Should an order of designation for a LEMA be implemented for the area including the WCA prior to December 31st, 2027, the applicant requests that the due consideration of its voluntary conservation under this plan be provided via an additional allocation within the first LEMA allocation period in the amount of any unused water based on the average annual WCA allocation per year before a LEMA is implemented. [e.g. if a WCA precedes a LEMA by two years and the total two-year use is 1,500 acre-feet then the additional carry over into a LEMA can be as much as 180 acre-feet {2x average WCA average annual allocation (2x 840 AF) minus the total two-year water use (1500 AF)= 180 AF}].
5. Should an order of designation for a LEMA not be implemented prior to December 31st, 2027, up to 1/5th (840 acre-feet) of the 5-year WCA allocation may be carried over and

added to the subsequent WCA evaluation period; if unused during the duration of the first WCA evaluation period and if a minimum of a 5-year WCA period. In order for the carryover quantity to be included into a subsequent WCA, Hayden Family Farm must enter into an agreement to participate in a subsequent WCA by December 31st, 2027.

Compliance Monitoring and Enforcement

We, the Hayden Family Farm and the tenant, understand that the following compliance monitoring and enforcement provisions are proposed. This section also includes any specific provisions regarding measuring or reporting water usage.

Water Right No. 11319 has for many years been measured annually by the Kansas Geological Survey(KGS). See attached water right area map. The well will continue to be measured annually and the data collected will help in evaluating the effectiveness of the WCA.

On behalf of the Hayden Family Farm, the tenant will submit an annual report no later than March 1st and maintain a spreadsheet detailing the following information for each well and all wells combined: beginning and ending meter readings, quantity of water diverted, acres irrigated, the inches per acre, and the quantity of water remaining for the WCA evaluation period listed. These records will be available to KDA-DWR upon request.

On behalf of the Hayden Family Farm, the tenant will ensure backup measurements will be supported or an alternate measurement device will be available to be put into service in case the water flowmeter record for any given well is questionable or not reliable.

On behalf of the Hayden Family Farm, the tenant acknowledges that water flowmeters within the WCA may be sealed to the measurement chamber by KDA-DWR during the duration of this management plan to ensure an accurate water use record.

On behalf of the Hayden Family Farm, the tenant shall be responsible for ensuring the water flowmeters comply with state and local law(s). Any water right owner, tenant, or authorized designee who finds a flow meter that is inoperable or inaccurate shall within 48 hours contact the KDA-DWR concerning the matter. Whenever an inoperable or inaccurate meter is repaired or replaced, the owner or authorized designee shall notify the KDA-DWR within seven (7) days on a form prescribed by the Chief Engineer of the water flowmeter installation and any water flowmeter repair or replacement event.

Hayden Family Farm acknowledges that failure to abide by the terms of this agreement may result in the termination of the WCA. Failure to abide by the terms, conditions, and limitations of the individual water rights will be subject to the civil penalties outlined in K.A.R. 5-14-10.

Review of Effectiveness

Hayden Family Farm acknowledges that a review of this WCA shall be completed prior to December 1st of 2022 and 2027 to ensure the above terms remain appropriate and are achieving the stated goals of the Hayden Family Farm WCA. Should the Chief Engineer find that the terms are no longer appropriate or that no progress has been made towards the stated goal, the Chief Engineer may refuse to extend the WCA in the second 5-year evaluation period and may suggest

new terms and goals. We understand that upon review, and a finding by the Chief Engineer that the WCA has achieved or made progress towards its goals and that the same terms may be included in a subsequent WCA for another designated period. The terms of the WCA may be continued as long as Hayden Family Farm is in good standing with its most recent WCA period and upon formal approval by the Chief Engineer. The Chief Engineer shall issue findings addressing the terms and goals of the existing management plan prior to any renewal of a subsequent WCA.

We acknowledge that unless terminated under the provisions below (e.g. due to the development of a LEMA), the WCA will be in effect for the listed period with an evaluation at the end of every 5-years; or sooner if the WCA period is less than 5-years. We understand that KDA-DWR will conduct this evaluation to ensure compliance and conservation. The evaluation will determine total water use during the WCA period.

We acknowledge that should an order of designation for a LEMA be implemented prior to end of this WCA period, an evaluation of this WCA will be conducted the year prior to the start of a LEMA. This evaluation may be used to determine an additional allocation amount of water to be carried over into a LEMA; should this be the case.

Termination

We acknowledge the Hayden Family Farm WCA agreement may be terminated by written notification, signed by all owners of the Hayden Family Farm WCA, to the Chief Engineer of the intent to terminate.

State Law

We acknowledge that the Hayden Family Farm WCA is subject to compliance with all other applicable state laws.

Notification to Nearby Owners

We acknowledge that, by statute, the Chief Engineer is required to provide written notification to all water right owners with a point of diversion within ½ of a mile, or farther if deemed necessary, by a rule and regulation of the Chief Engineer, of the boundaries of this WCA.

Assurances

We acknowledge this WCA will not alter the terms, conditions, and limitations of the base water rights.

Review of Other Applicable Requirements

We acknowledge that upon review, Hayden Family Farm WCA management plan was found to effect equal or greater overall conservation than applicable GMD regulations, LEMA, and IGUCA requirements.

Participant's Agreement

By signing below, we, the water right owners and tenant farmer, agree that this Water Conservation Area Management Plan is fair and equitable. This management plan, provided to the Chief Engineer and water right owners, is the expressed written intent of the parties and the whole agreement between the parties. We, the water right owners agree

to be bound by all the terms contained in this WCA Management Plan and understand that the provisions of this agreement shall be construed to give effect to the provisions listed. We, the water right owners also agree that this management plan is the basis for a consent agreement among the Chief Engineer and the undersigned water right owners, and therefore any order and consent agreement issued by the Chief Engineer, designating the Hayden Family Farm, shall be binding upon all parties as the necessary formal implementation of this management plan.

FOR THE PARTICIPANTS: All participating water right owner(s) signing below, affirm their approval of this WCA Management Plan and if approved by the Chief Engineer allow consent to the Chief Engineer to formally approve the designation of this Water Conservation Area, described herein, by means of a Consent Agreement and Order.

Hayden Family Revocable Trust UTD 9/12/1995

Robert J Hayden Date: 12-27-17
Robert J Hayden, Trustee (Signature)
Water Right No(s). 9287, 11319, 16000

Cynthia Hayden Date: 12-27-17
Cynthia Hayden, Trustee (Signature)
Water Right No(s). 9287, 11319, 16000

12526 Crested Moss Rd NE, Albuquerque, NM 87122
Full Mailing Address

bandchayden@msn.com 505-797-2597
Email Address Phone Number

ACKNOWLEDGMENT OF NOTARY

State of ~~Kansas~~ New Mexico

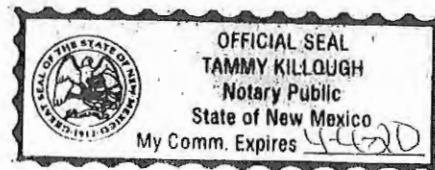
County of Bernalillo) SS

Acknowledged before me on 12-27-17

by Tammy Killough

Signature: Tammy Killough
Notary Public

My commission expires: 4-4-20
(Notary Seal)



KANSAS DEPARTMENT OF AGRICULTURE -- DIVISION OF WATER RESOURCES

FOR THE PARTICIPANTS: All participating water right owner(s) signing below, affirm their approval of this WCA Management Plan and if approved by the Chief Engineer allow consent to the Chief Engineer to formally approve the designation of this Water Conservation Area, described herein, by means of a Consent Agreement and Order.

Gerald Lee Sherman
by Mary Lou Teeters
 POA dated 12/14/17

Date: 12/27/17

Lee Sherman, Owner (Signature)

Water Right No(s). 9287, 11319, 16000

Sally Jo Sherman
by Mary Lou Teeters
 POA dated 12/14/17

Date: 12/27/17

Sally Jo Sherman, Owner (Signature)

Water Right No(s). 9287, 11319, 16000

525 Fairway Court, Broken Arrow, OK 74011

Full Mailing Address

Lee@ggisoft.com

Email Address

918-455-1562

Phone Number

ACKNOWLEDGMENT OF NOTARY

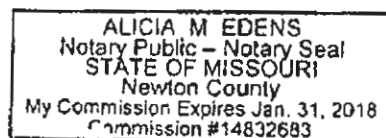
Missouri
 State of Kansas)

County of Newton) SS

Acknowledged before me on December 27, 2017by Mary Lou TeetersSignature: Alicia M. Edens

Notary Public

My commission expires: January 31, 2018
 (Notary Seal)



KANSAS DEPARTMENT OF AGRICULTURE - DIVISION OF WATER RESOURCES

FOR THE PARTICIPANTS: All participating water right owner(s) signing below, affirm their approval of this WCA Management Plan and if approved by the Chief Engineer allow consent to the Chief Engineer to formally approve the designation of this Water Conservation Area, described herein, by means of a Consent Agreement and Order.

Robert S. Teeters Date: 12/27/17
Robert S. Teeters, Owner (Signature)
Water Right No(s). 9287, 11319, 16000

Mary Lou Teeters Date: 12/27/17
Mary Lou Teeters, Owner (Signature)
Water Right No(s). 9287, 11319, 16000

4501 Belmont Drive, Joplin, MO 64804
Full Mailing Address

mlteeters5@aol.com 417-782-0451
Email Address Phone Number

ACKNOWLEDGMENT OF NOTARY

State of Missouri)
~~Kansas~~) SS
County of Newton)
Acknowledged before me on December 27, 2017
by Robert S. Teeters, Mary Lou Teeters
Signature: Alicia M Edens
Notary Public

My commission expires: January 31, 2018
(Notary Seal)

ALICIA M EDENS
Notary Public - Notary Seal
STATE OF MISSOURI
Newton County
My Commission Expires Jan. 31, 2018
Commission #14832683

FOR THE TENANT:

The participating tenant signing below, affirms acceptance of the WCA Management Plan and their responsibilities as described above

James Mosbarger

Darla Mosbarger
Mosbarger Family Farms

Date: 12/29/17

601 W. HWY 24, Goodland, Kansas 67735

Full Mailing Address

785-821-2181 Jim

darla@mosbargerfamilyfarms.com 785-821-4301 Darla
Email Address Phone Number

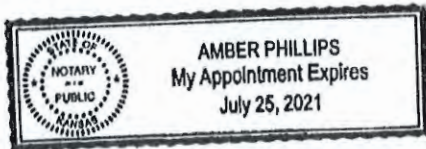
ACKNOWLEDGMENT OF NOTARY

State of Kansas)
County of Sherman) SS

Acknowledged before me on 12-29-17
by Amber Phillips

Signature: *Amber Phillips*
Notary Public

My commission expires: 7-25-21
(Notary Seal)



CERTIFICATE OF SERVICE

I hereby certify that on this _____ day of _____, 2018, copies of the foregoing were sent via first class, U.S. mail, to the following:

HAYDEN FAMILY REVOCABLE TRUST
12526 CRESTED MOSS RD NE
ALBUQUERQUE NM 87122

ROBERT S & MARY LOU TEETERS
4501 BELMONT DRIVE
JOPLIN, MO 64804

LEE & SALLY JO SHERMAN
525 FAIRWAY COURT
BROKEN ARROW, OK 74011

MOSBARGER FAMILY FARMS
601 E. HWY 24
GOODLAND KS 67735-8910

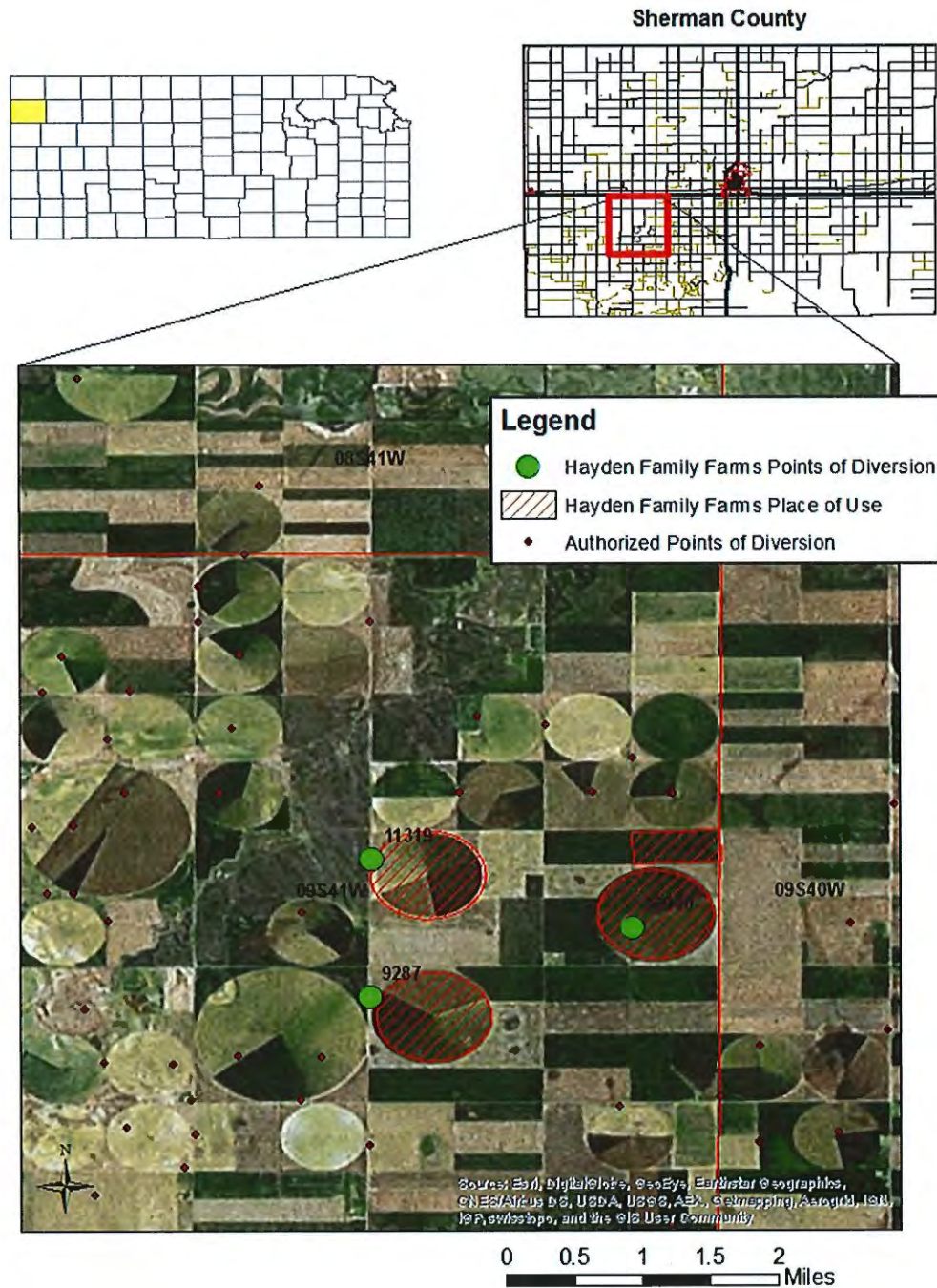
Groundwater Management District No. 4

DWR-KDA Water Commissioner, Stockton Field Office

Kansas Department of Agriculture
Staff Person

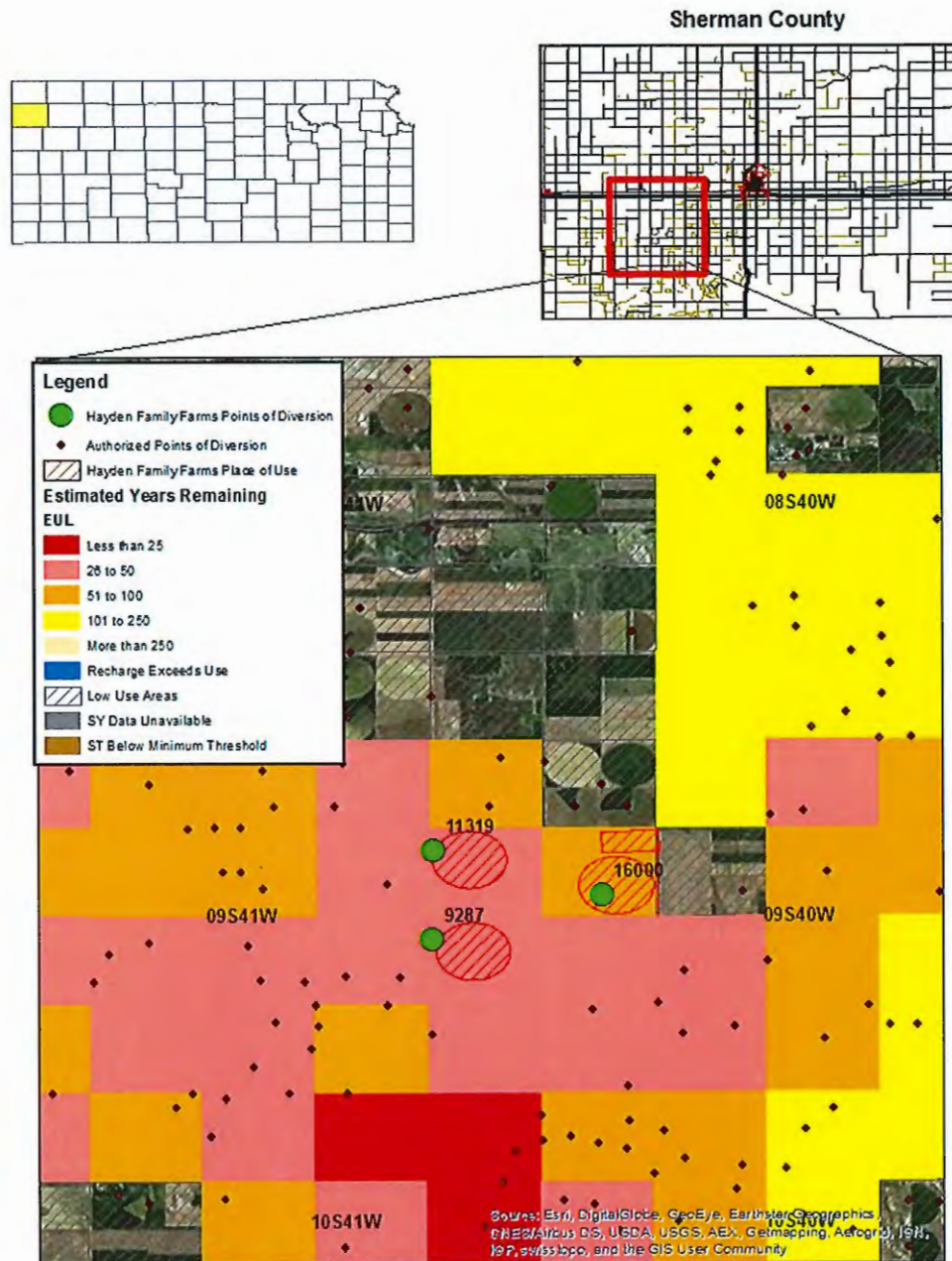
Attachment A

Water Right Area Location Map- Hayden Family Farm Water Rights & Authorized Place of Use



Attachment B

Estimated Usable Life to Support 400 GPM



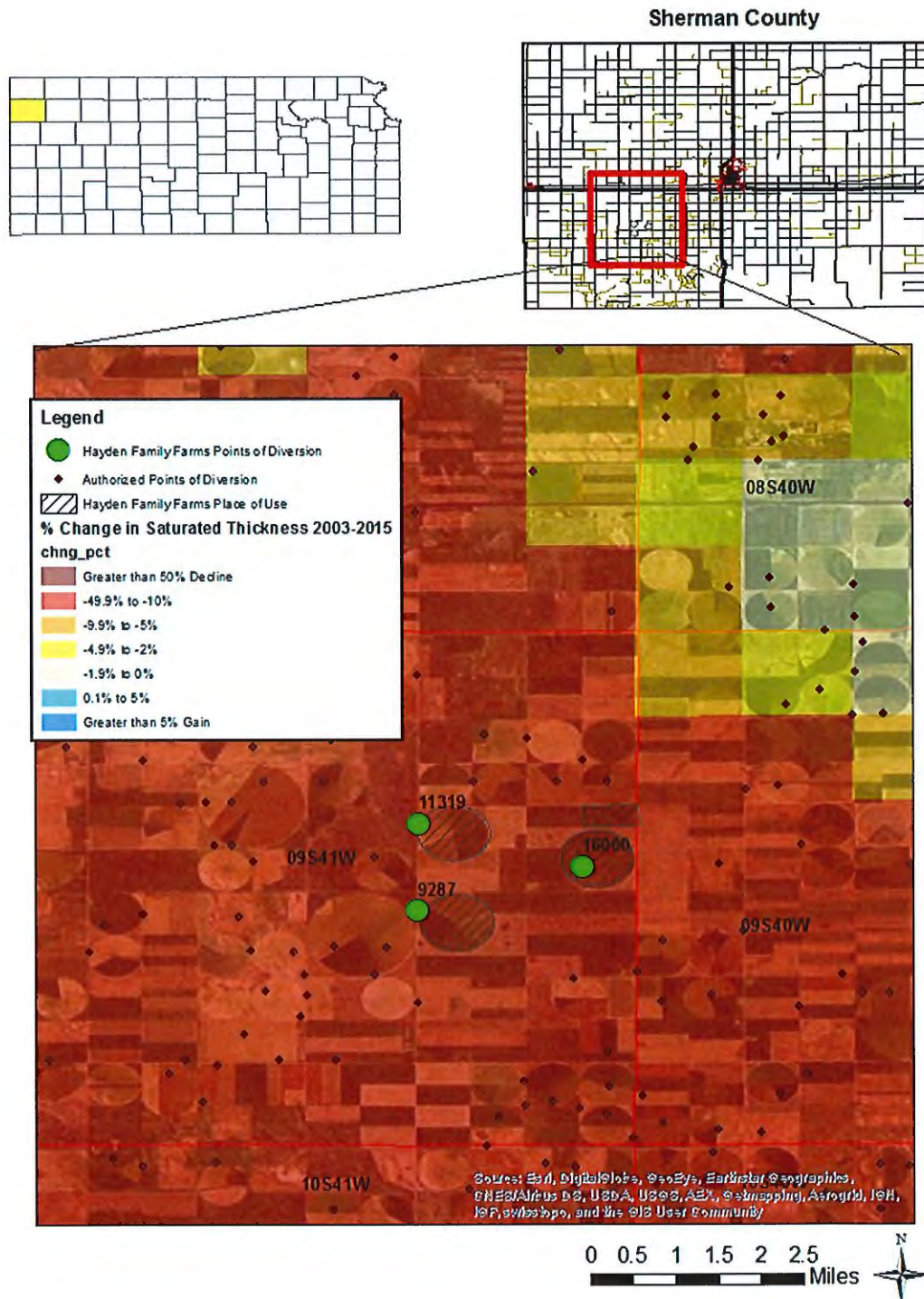
Based on KGS Section Level Data for saturated thickness (2014-2016) and revised minimum saturated thickness required to support 400 gpm under a 90-day pumping scenario with wells on 1/4 section, USGS average specific yield, USGS 1947 to 2007 average recharge, and DWR section-level groundwater use data 2010-2014 for an average 2-mile radius

Attachment C1 Changes in Water Level (ft) from 2003 to 2015



Attachment C2

Percent Change in Saturated Thickness from 2003 to 2015



Attachment D

Summary of Water Use History- Hayden Family Farm Water Use

Hayden Family Farms WUR 2003-2015									
Overlap in PU									
FILE #	9287		11319		16000		Combined		
YEAR	AF	Acres	AF	Acres	AF	Acres	AF	Acres	IN/AC
2015	209	240	200	240	373	240	782	720	13.03
2014	260	240	257	240	339	240	856	720	14.27
2013	316	240	279	240	428	240	1023	720	17.05
2012	397	240	343	240	449	240	1189	720	19.82
2011	310	240	304	240	358	240	972	720	16.20
2010	225	240	220	240	330	240	775	720	12.92
2009	264	240	215	240	324	240	803	720	13.38
2008	328	240	272	240	346	240	946	720	15.77
2007	323	240	241	240	328.95	240	892.95	720	14.88
2006	289	240	287	240	339.73	240	915.73	720	15.26
2005	281.71	240	241.03	240	348.01	240	870.75	720	14.51
2004	353.54	240	270.68	240	381.16	240	1005.38	720	16.76
2003	324.07	240	293.6	240	381.16	240	998.83	720	16.65
AVERAGE:	298.49	240.00	263.33	240	363.54	240	925.36	720	15.42
Average AF/Acre	1.24		1.10		1.51		1.29		
Average Inches/Acre	14.92		13.17		18.18		15.42		
Auth. Quantity (total combined, if overlapping PD)	480.00		432.00		576.00		1488.00		
Avg. % Appr. Quantity used	62%		61%		63%		62%		

Attachment E

KGS Index Well Data - 09S 41W 14BBC 01

Water Right No. 11319-00

USGS ID:	391632101522601	KGS Local Well ID:	09S 41W 14BBC 01
County:	Sherman	PLSS Description:	9S 41W 14 SWNWNW
HUC 8 Code:	10250012	GMD:	Northwest Kansas GMD #4
Longitude:	-101.874854	Lat/Long Source:	GPS (within 50 feet)
Latitude:	39.274651	Lat/Long Accuracy:	5 seconds
Surface Elevation (ft):	3835	Depth of Well (ft):	300
Geological Unit Codes:	TO	USGS Map Name:	Ruleton SE
Use of Site:	Withdrawal of Water	Use of Water:	Irrigation
WWC5 Links:	None	WIMAS Link:	15364

